

## Highlights

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# Washington SCIENCE TRENDS

AIRCRAFT NUCLEAR PROPULSION is the latest program to feel the pinch as Eisenhower Administration strives to draft a "balanced" budget for presentation to the next Congress. This is the key to recent public statements from the military warning of Soviet progress in the field. Advocates of ANP within the Pentagon believe, not without some justification, that they have been be-deviled by too much pessimism from scientists who have been brought in to advise on the program.

Reports are circulating in Washington that Presidential Science Advisor James Killian and his aides have placed ANP well down on the priority list. Somewhat better treatment has been accorded the AEC's programs for nuclear ram-jet and rocket propulsion and the use of auxiliary nuclear power in air and space craft.

Air Force now promotes ANP as the means toward an airborne early warning system of unequalled range, endurance and payload. Maj. Gen. Donald J. Keirn says a nuclear powered turbojet combined with more conventional propulsion could perform at supersonic speeds when so required. Navy leans toward an ANP turboprop designed for low and slow anti-submarine missions.

Behind the current budget dispute: Air Force wants to go into ANP hardware programs; many scientists believe extensive studies of materials, shielding, etc; must come first.

American Rocket Society was told by one speaker last week: "Engineers concerned with the investigation of the feasibility of (manned nuclear aircraft) openly admit that the more they investigate, the more convinced they become that the problems involved are insurmountable..."

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NUCLEAR ROCKET PROPULSION studies by AEC and Air Force are, in large part, being transferred to control of the new National Aeronautics and Space Administration. The first test reactor, named Kiwi-A for the bird that cannot fly is now undergoing final checkout at the AEC's Nevada Test Site. Other reactors for the program are still in the design stage. Dr. R.E. Schreiber of the Los Alamos Scientific Laboratory says his group expects to spend several months in getting Kiwi-A hooked up to its test cell and in checking. Reactor operations will then begin with technicians "cautiously" approaching full operating conditions in an "unexplored area of temperature and power density."

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION, still in the throes of reorganization, intends to appoint members of 13 new Advisory Committees despite objections from Congress that such groups have tended to impede decision-making progress in the past. The new research committees will replace the 28 technical committees and subcommittees of the former National Advisory Committee for Aeronautics (NACA) but it seems inevitable that new panels and sub-panels will eventually be formed.

NASA Administrator Keith Glennan will personally appoint all committee members and the committees will report directly to him. He promises that committee membership, "as far as feasible" will be kept small to facilitate discussion and co-ordination with industry, universities and other Government organizations.

Advisory Committees, now being organized, will be concerned with: fluid mechanics; aircraft aerodynamics; missile and space craft aerodynamics; control, guidance and navigation; chemical energy processes; nuclear energy processes; mechanical power plant systems; structural loads; structural design; structural dynamics; materials; and aircraft operating problems.

LIFE SCIENCES: Here is the membership of the new Special Committee on Life Sciences which will be headed by Dr. W. Randolph Lovelace II, Director, Lovelace Foundation, Albuquerque, New Mex.: Capt. Norman L. Barr, Director, Astronautical Division, Navy Bureau of Medicine and Surgery, Washington, D.C.; LCdr. John H. Ebersole, Medical Officer, USS Seawolf, Fleet Post Office, N.Y., N.Y.; Brig. Gen. Donald D. Flickinger, Headquarters, Air Research and Development Command, Washington, D.C.; Lt. Col. Robert H. Holmes, Army R&D Command, Wash., D.C.; Dr. Wright H. Langham, Los Alamos Scientific Laboratory; Dr. Robert B. Livingstone, National Institutes of Health, Bethesda, Md.; and Dr. Orr Reynolds, Office of Assistant Secretary of Defense for Research and Engineering, Washington, D.C. Boyd C. Myers, NASA, is secretary to the committee.

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PROJECT VANGUARD: Status of the Vanguard satellite program provides a fresh example of the difficulties of military-civilian-industry liaison in the early days of the Space Age. NASA early last week said flatly that the project had been postponed until next year while the entire satellite program undergoes re-study. Nevertheless, at deadline Friday sources at Cape Canaveral said no order for postponement had been received and preparations for a launching later this month were going ahead at full speed.

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CARS AND CANCER: The automotive industry is smarting under the same type of guilt by association attack which has been worrying tobacco manufacturers. At a national conference here, air pollution was termed "a highly probable and important factor in the excess of lung cancer in urban areas" and automobile exhausts were cited as a leading cause of air pollution. Automobile interests appeared so upset by the publicity they resorted to reminders that the family car has led to paved streets and the elimination of stables as a health menace. (Write National Conference on Air Pollution, U.S. Public Health Service, Washington 25, D.C. for details on publications and programs.)

SCIENCE INFORMATION PROBLEMS appeared to baffle many delegates and observers to an international meeting here. Proposals for a global center of information received little support; the explanation being that the plan had been tried before -- when the volume of material was far smaller -- and had failed. Suggestions that the U.S. Government support a national science information center, similar to that of the Soviet Union, also foundered on the obstacles of complexity and expense.

National Science Foundation will, however, support a Research Information Center and Advisory Service in the field of Information Processing. The Service is designed to bring together research and development data on methods and equipment for the automatic processing of scientific information. (Write Research Information Center, National Science Foundation, Washington 25, D.C. for further details on plans and policies.)

Officials of the conference said two distinct trends in information gathering and searching are apparent. Some experts believe that available material should be thoroughly sifted, others believe that all information should be made available, through data processing equipment. There was some thought given to the possibility of setting up national information centers in specific fields such as biology, chemistry, etc.

(Preprints of Papers for the International Conference on Scientific Information are available from Publications Office, National Academy of Sciences, Washington 25, D.C. at \$10. Index and Proceedings will be available by early 1959.

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TECHNICAL STANDARDS are being used as an economic weapon by the Soviets, according to Henry Kearns, Assistant Secretary of Commerce. He quotes a new Russian Journal "Standardizatsia" as declaring: "The aim of unification of standards is to guarantee the interchangeability of products which are bartered by socialist countries." Russian national standards are said to number about 10,000 and are being adapted by the satellite nations. Kearns has urged the American Standards Association to work for international standards. If this is done correctly, he declares, "The chances are that free Asian and African nations will not admit Soviet standards into their lands..."

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IONIZING RADIATION for food preservation was viewed here last week as an important process for certain supplemental applications in the future. W.D. Bellamy, General Electric, Schenectady, N.Y. told the Association of Military Surgeons that about 100 laboratories in the U.S. are processing about 18 tons of food per month for the research program, which is largely supported by the Government.

His conclusion: "The development of larger and more economical sources will make this method of food preservation increasingly attractive. It will have application in limited areas depending on the food distribution, processing and consuming practices of each country or economic area. With a rapidly expanding population and a critical food shortage in many areas the world must examine every possibility of more efficient utilization."



## THE CHECKLIST

## *Washington* SCIENCE TRENDS

- ( ) Scientific Information in Federal Agencies, the first of a series of reports spelling out in detail science, engineering, research and development information available. Initial Report covers the U.S. Department of Agriculture. 8 Pages. Free (Write Science Information Service, National Science Foundation, Washington 25, D.C. for Publication NSF 58-27)
- ( ) Health Statistics, a report which purports to show that illness or injury disabled the average American 20 days last year and caused visits to doctors at least five times in the same period. 49 pages. Free. (Write Public Inquiry Service, U.S. Public Health Service, Washington 25, D.C. for Publication No. 584-B5)
- ( ) Guided Missile Fundamentals, a manual prepared for use in training Air Force personnel in the principles of guided missiles. Covers operation, maintenance and inspection as well as aerodynamics, propulsion, instrumentation, control, guidance and electronics. 575 pages. \$3.50. (Write Superintendent of Documents, Government Printing Office, Washington 25, D.C. for Pub. No. D 301.7:52-31)
- ( ) Mathematics and Science Education, a report of a conference sponsored by U.S. Office of Education to assist officials in state and local school systems. 97 pages. 65 cents. (Write Superintendent of Documents, Government Printing Office, Washington 25, D.C. for Publication No. FS 5.4:533)
- ( ) Government Property in possession of contractors, a publication issued in loose-leaf form for use by Inspectors of Navy Material sets forth procedures for administering Government property in the possession of contractors, including property provided to nonprofit research and development organizations. 92 pages. 55 cents. (Write U.S. Government Printing Office, Washington 25, D.C. for Publication No. D 201.6:G 74/958)
- ( ) Foreign Language knowledge of American Scientists, a report showing that about three-fourths of U.S. Scientists surveyed knew something of at least one foreign language. German was most popular, followed by French. Only 1 in 50 knew some Russian. 8 pages. Free. (Write National Science Foundation, Washington 25, D.C. for Publication NSF 58-31)
- ( ) Radiological Sciences, a quarterly progress report for the Period April-June 1958 covering research and development activities. 41 pages. \$1.25. (Write OTS, U.S. Department of Commerce, Washington 25, D.C. for Report HW-56928)
- ( ) Beryllium, a summary of available data with information on possible use as a structural material in airframe and missile applications. Surveys current or projected use by the Armed Forces. 182 pages. \$3. (Write OTS, U.S. Department of Commerce, Washington 25, D.C. for Report PB 121648)
- ( ) All-Electronic Analog Computer, a report on development of components for a computer facility described as sufficient to simulate modern guided missile systems. 240 pages. \$3.50. (Write OTS U.S. Department of Commerce, Washington 25, D.C. for Report PB 151137)

